



T R A N S M I T T A L

IPP



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Date: April 11, 2001

Pages to follow: 6

**Comments:**

Blaine asked me to fax this to you before our call this morning.  
This is an overview and background of regs and permitting issues  
surrounding the Dense Pack project.

Approval

11.01/MA  
Date/Time Sent  
1:25

### **IPSC HP TURBINE DENSE PACK PROJECT - ISSUES**

- Actuals to Future Actuals Calculation - WEPCO exemption
- Beneficial Pollution Control Project - Federal Exemption
- Application of BACT for minor modifications
- Acceptance of Approval Order to construct by EPA and Citizen Groups
- Getting State rules in line with Federal Rules
- Obtaining a "synthetic minor" permit
- Timely issuance of permits
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## DISCUSSION ON HP DENSE PACK PROJECT PERMITTING

Routine maintenance, repair and replacements at a facility are allowed, even if emissions are increased, without permitting due to specific exemptions in the regulations.

However, based on recent litigation initiated by the EPA against the utility industry, the EPA considers that modifications do not qualify as routine maintenance, repair, or replacement if the modification (i) increases capacity, (ii) regains lost capacity, or (iii) extends the life of a facility.

The EPA has further determined specifically that a high pressure turbine dense pack project is NOT routine maintenance, repair, or replacement. Hence, if the project has the potential to increase emissions, a permit must be obtained.

If the emissions increase is significant, that is, above certain cut-off limits, then the project is a major modification, and the facility must install best available control technology (BACT) to minimize the emissions for which the facility will be significant, or major. For instance, if the modification will cause an increase in nitrogen oxides emissions greater than 40 tons per year, then the modification is major, and BACT must be used. Presumed BACT for NOx is selective catalytic reduction, a very costly (\$200M) addition.

The Notice of Intent filed by IPSC for the Dense Pack project is designed to avoid BACT by keeping any emission increases below major or significant thresholds. The project includes moderate enhancements in NOx and SO2 removal efficiency by installing new low NOx burners and modifying the scrubber. These ensure that BACT is not triggered by keeping the project a minor modification to IPP. The enhancements in emissions control keep any increases below the significant thresholds. NOx could actually be less than our current emissions.

If we did not install these moderate enhancements to pollution controls, IPP would be required to take stringent permit limits to ensure we did not exceed significant thresholds and still be able to avoid BACT requirements.

The following is a general background discussion:

**Controlling Point:** Under Prevention of Significant Deterioration (PSD) rules, any modification involving capital expenditures cannot result in a significant increase in emissions. If a significant increase is likely or actual, then the modification is considered major, and best available control technology (BACT) must be installed for those pollutants that can potentially increase. So to increase capacity and not have a major modification, we must either take a permit limit or add moderate NOx controls so emissions do not increase.

**Significant Increase:** For NOx and SOx, the threshold is 40 tons /year as the limit; for PM10, 15 tons; for CO, 100 tons. Hazardous Air Pollutants are much less (i.e., lead is 0.6 tons).

**Minor Modification:** A capital project or change in operation that results in no significant increase in pollutants. This is determined by averaging two years of emissions just prior to the

modification, and comparing against actual emissions annually for five years (and up to ten, at EPA's discretion) after the modification.

**Major Modification:** A project is major if a significant emissions increase occurs for ANY pollutant. The impact of being a major mod can include a year of air monitoring, then air modeling, calculations of impact to incremental consumption of ambient air, and the installation of BACT for each pollutant expected to increase.

**Synthetic Minor:** A synthetic minor modification is where an emissions increase is prevented in a "practical" sense through permit limits. That is, the facility accepts a permit limit adjustment that results in lowered emission potential for pollutants of interest. For instance, for NOx, if a permit limit of 0.50 lbs/MMBtu were lowered to 0.47 lbs/MMBtu, the net restriction of potential emissions could be counted against any increases expected from the modification. The State & EPA are reluctant to allow the use of this method alone for our project, since IPP is already a major source. Even though the rules allow synthetic minors, and the use of allowable emissions for determining revised emission limits have been utilized for other facilities, the current stance is that this can only be used to keep minor sources as minor sources.

**Permitting Considerations:** Capital modifications can be done without restriction (permit-wise) as long as there are no emission increases causal to the modification. (With some caveats.) But, the facility must be diligent to prove that fluctuations in emissions are due to normal operations unrelated to the mods. In our case, an operating anomaly can cause a 40 ton NOx increase in one day, and we could be hard pressed to prove the cause. Note that by adding pollution controls as part of the modification project, the project will automatically be considered a minor modification if the controls are sufficient to keep emissions below major thresholds. Also note that to make sure that no increases will result from the modifications, new permit limits may be imposed for enforcement.

**Control Technology:** For SOx, our scrubbers are close to BACT. The proposed modification includes upgrading the scrubber performance at a nominal cost. So for SOx and certain hazardous air pollutants, there will not be any increase.

For NOx, several options are available to limit increases:

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| LNB's: | Low NOx burners are presently installed which provide a nominal 60% reduction from pre-combustion NOx levels. However, new generation ultra-low NOx burners are providing an additional 10% to 50% reduction in NOx. LNB's would be considered low cost moderate controls. |
| FGR:   | Flue gas recirculation reintroduces flue gas into the combustion air and is recirculated into the boiler. The effect is to slow combustion somewhat and produce less NOx. Cost and NOx removal capability is similar to LNB's.   |
| SNCR:  | Selective non-catalytic reduction utilizes ammonia injection to convert NO   |

to NOx which can be scrubbed from flue gas in the scrubber, or removed in particulate form in the baghouse. Cost is about twice that of LNB's with a little better track record on removal for the incremental increase over our present LNB's. This method requires more upkeep than LNBs, and the additional expense of ammonia use. Also, ammonium sulfate can form on air heaters and other flue path locations.

SCR: Selective catalytic reduction uses both ammonia and a catalyst to make significant NOx reductions up to 90% or more at about four times the cost of LNB's. This method also has increased operating expense, plus the requirement to change out catalyst beds every few years. This is not a proven technology for western low sulfur alkaline coal.

POTPOURRI: A combination of any of these.

**IPSC Permit Notice of Intent:**

The NOI contains information required by the State Division of Air Quality to make a determination in issuing a permit. It outlines the operation and process at IPP, and then provides an overview of the project.

Our argument to the State DAQ is that we will not have a significant increase under PSD rules. The attachments are the calculations showing this assertion. Further, we have provided a toxics analysis required by the State to show that there will be no (or for arsenic, little) impact.

The NOI also covers permitting issues important to IPSC and LADWP. In order to protect operating flexibility, timeliness of construction, and to prevent a "lock-in" on the complete project, some language was added in an attempt to assert our intention. However, if IPSC and DWP chooses not to complete the project once we have started, we may be faced with some permit limits more stringent than we already have.

We think that our Notice of Intent (NOI) outlined all aspects of any upgrade or mod expected or needed during the project term. A submittal with all these items and the addition of moderate NOx controls (LNB or SNCR) as one package should be considered a minor modification because we can show little or no emission increases as a result. This combination should be readily accepted by the State DAQ. We would have to negotiate a staged approval order allowing periodic construction of the project. But no capacity increases can occur before NOx controls are added. This means we could initially take advantage of the performance improvements of the Dense Pack, but until NOx controls are in place, we could not increase capacity or emissions.

If for some reason the project was limited to only the turbine upgrades, then we would have to prove for years that it doesn't cause an increase in emissions. A scaled-back version of the project would actually cause more scrutiny by EPA and the State DAQ than full implementation of the project upgrades as a whole.

**Time-line:**

We feel that the NOI is a complete application package with all the information the State should need. Now that the NOI has been filed, the State has 30 days to determine if the NOI is complete as required. If it is not complete according to them, they will request additional information as needed, and then they have another 30 days after we submit updated information to determine if the NOI is complete. This can go on continuously until the State is satisfied that it has all the information it needs, which can include air modeling and monitoring data.

Once our NOI is deemed complete, the State has a 90 day review period to approve, disapprove, or modify our request. If we have to modify our NOI (i.e., to meet air regulations), the process starts over.

Once approved, the NOI is given an intent to approve Approval Order, and then there is a 30 day comment period. If a hearing is requested (by anyone), the State is required to hold one prior to final approval. This is when the EPA reviews the NOI and proposed approval order. All comments (including the EPA's) must be considered and can alter final approval for construction.

**Concerns:**Federal / State Rule Equivalence

The State rules do not follow the Federal rules like they should. State law says that the State can not be any more stringent in its rules than any corresponding rule at the federal level. This is particularly important when considering the basis for calculating net significant increases. The federal rules allow utilities to compare historical actual emissions to projected future actual emissions, then prove up over a five year period. The problem is that the State doesn't incorporate the federal exemptions within its own rules, as required. We are currently working with the State to have these changed to match federal rules. Perhaps the time frame for completing the rule changes could be accelerated with appropriate urging.

Note that the exemptions utilities enjoy under the federal rules were forced upon the EPA by the courts in the "WEPCO" case. EPA tolerates the WEPCO language when it has to, but only after scrutinizing any actions where utilities use the WEPCO exclusions. When the State changes its rules to match the federal exemption, the EPA may cause some grief, and object to the changes. Since Utah is an authorized State for the Clean Air Act, any changes must be approved by the EPA, even if the changes are meant to match federal language.

Application of BACT

BACT is required in the federal rules only for any modification that is major, i.e., having a significant emission increase. The State, however, requires BACT anytime a pollution control device is added or replaced whether the action is major or minor. Since we intend to keep NOx emissions below significant thresholds, we plan to either replace our present low NOx burners with new generation burners, or add another technology such as selective non-catalytic reduction. Under federal rules, we could do this and escape major PSD requirements, including BACT. However, under State rules, they will expect us to make the NOx controls BACT. The State

people are very willing to work with us within the realm of State rules, and are providing us with a lot of flexibility in making our BACT analysis, since this project is minor and any addition would be a retrofit. But in case we run into a problem, such as objections by the EPA to what the State does, it would be good to have the language changed now to make BACT applicable only to minor modifications, and mirror federal rules.

State personnel are being very helpful, and feel that they should be able to issue an approval order in time for construction, provided State rules are followed. In both the preceding issues, the State personnel have boundaries as far as helping IPSC get through permitting. They are very favorable to helping us get our approval order to construct, but must do so within the constraints of State regulation. If they waiver from the rules in issuing a permit, the EPA and citizens groups can take both the State and us to task.

#### Title V Operating Permit

The section currently working on our approval order is the New Source Review group. The people that will provide our permit to actually operate with the new modifications is the Title V group. Although we will be in contact with the Title V Operating folks during this process, we don't have a feel yet regarding any issues they may have when this comes across their desks. So getting them on-board early would be helpful.

#### Time Line

In order to construct beginning with our next outage, we need an approval order by year's end. The State folks seem to think that won't be a problem. It won't be, unless these other issues get in the way. So it is of utmost import to get the Division of Air Quality (Rick Sprott) jumping on the federal / state rule equivalence business. The DAQ can get the changes to the Air Board by May, but getting it past the EPA could be another story.